

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
2 October 2003 (02.10.2003)

PCT

(10) International Publication Number
WO 03/079773 A1

(51) International Patent Classification⁷: **A01K 11/00**

(21) International Application Number: PCT/NO03/00098

(22) International Filing Date: 21 March 2003 (21.03.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20021435 21 March 2002 (21.03.2002) NO

(71) Applicant (for all designated States except US): **TELENOR ASA** [NO/NO]; Snarøyveien 30, N-1331 Fornebu (NO).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **THORSTENSEN, Bjørn** [NO/NO]; Kræmmerveien 7, N-9010 Tromsø (NO). **SOLVOLL, Terje, Geir** [NO/NO]; M. Urdals veg 7, N-9011 Tromsø (NO). **EVJEMO, Bente** [NO/NO]; Henrik Wergelands veg 31, N-9007 Tromsø (NO). **JOHNSEN, Øyvind** [NO/NO]; Trondheimsveien 55, N-9404 Harstad

(NO). **SYVERSEN, Tore** [NO/NO]; Kløvervegen 8, N-9016 Tromsø (NO). **MUNCH-ELLINGSEN, Arne** [NO/NO]; Anna Hides veg 3, N-9012 Tromsø (NO). **AKSELSSEN, Sigmund** [NO/NO]; Nordmarksveien 33, N-9400 Harstad (NO). **KARLSEN, Haakon, Jr.** [NO/NO]; Ørnes, N-9060 Lyngseidet (NO).

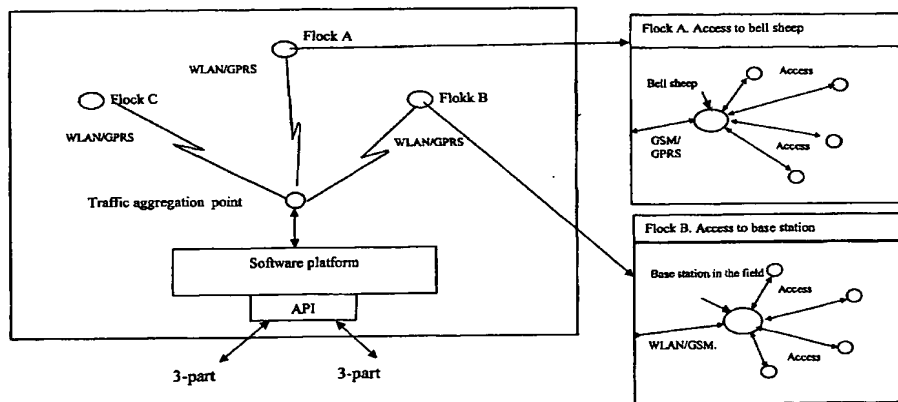
(74) Agent: **OSLO PATENTKONTOR AS**; Postboks 7007 M, N-0306 Oslo (NO).

(81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: A SYSTEM AND METHOD FOR TRACKING INDIVIDUALS



(57) Abstract: A system and method of tracking individuals divided into flocks by means of radio communication and positioning systems is disclosed. A flock leader is provided with a first electronic device (1) comprising a first transceiver (2) operating in a public radio communication network, e.g. GSM or GPRS, a position tracker (3), e.g. a GPS-receiver, and a second transceiver (4) operating in a short distance radio communication system, e.g. Bluetooth®. Each of the remaining individuals in the flock is provided with a second electronic device (6) comprising at least a third transceiver (7) also operating in the short distance radio communication system. The second electronic device (6) periodically transmits data identifying the associated individual to the first electronic device (1), so that the flock leader knows that the individual is localized in the flock (i.e. within the coverage area of the short distance radio communication system) as long as it receives the data. The first electronic device (1) communicates with a system controller through a public radio communication network managing the system and keeping track of the individuals in each flock.



WO 03/079773 A1



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,*

KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

- *of inventorship (Rule 4.17(iv)) for US only*

Published:

- *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IS 03/00098

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A01K 11/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A01K, H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	DE 10045469 A1 (REINHARD, L. ET AL), 4 April 2002 (04.04.02), the whole document	1-7,9-22, 24-25
P,A	--	8,23
A	EP 1172663 A2 (TEXAS INSTRUMENTS INCORPORATED), 16 January 2002 (16.01.02), abstract	1-25
A	US 5868100 A (MARSH, R.E.), 9 February 1999 (09.02.99), abstract	1-25
	--	

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

5 June 2003

Date of mailing of the international search report

06-06-2003

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Elisabet Åselius /OGU

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 03/00098

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,A	WO 02076193 A1 (NOKIA CORPORATION), 3 October 2002 (03.10.02), page 3, line 11 - page 4, line 7; page 5, line 13 - line 31; page 7, line 25 - page 8, line 14, page 15, line 6 - page 18, line 22	1-25
P,A	WO 0237952 A1 (GRØNVOLD, A.), 16 May 2002 (16.05.02), abstract	1-25

INTERNATIONAL SEARCH REPORT
Information on patent family members

29/04/03

International application No.

PCT/NO 03/00098

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
DE	10045469	A1	04/04/02	NONE		
EP	1172663	A2	16/01/02	JP	2002062344 A	28/02/02
				US	6246376 B	12/06/01
US	5868100	A	09/02/99	AU	722090 B	20/07/00
				AU	3650297 A	02/02/98
				NZ	333654 A	28/07/00
				WO	9801023 A	15/01/98
WO	02076193	A1	03/10/02	GB	0107210 D	00/00/00
				GB	0113325 D	00/00/00
WO	0237952	A1	16/05/02	AU	1526702 A	21/05/02
				NO	20005721 A	14/05/02